CLAIMS.

We claim

1. A method of machine-readable form pre-recognition analysis comprising

- a filled in form image,

- at least one form model description, containing spatial and parametric properties of at least one element of the said form,

- processing at least the following steps:
    o preliminarily assigning at least one form object as an element of graphic image for identification of image direction of spatial orientation,
    o preliminarily creating at least one model of the said graphic image for identification of image direction of spatial orientation,
    o parsing image into regions,
    o form image spatial orientation direction verification, comprising at least the following steps:
        • detecting on the form image at least one element composing the graphic image for the image spatial orientation verification,
        • performing the said graphic image identification attempt to verify if the direction of the image agrees with that of the spatial orientation model,
        • performing graphic image turn from the current position to the preliminarily assigned direction on angle 90° and further returning to the previous step in the case of the image identification reliability level on the previous step being lower then the predetermined level thereof;

2. A method of machine-readable form pre-recognition analysis comprising

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- a filled in form image,
- at least one form model description, containing spatial and parametric properties of at least one element of the said form,
- processing at least the following steps:
    o preliminarily assigning at least one form object as an element of graphic image for identification of image form type,
    o preliminarily creating at least one model of the said graphic image for identification of image form type,
    o parsing image into regions,
- form image type definition, comprising at least the following steps:
    ▪ detecting on the form image at least one element composing the graphic image for form type definition,
    ▪ performing a primary identification of the graphic image using the said model,
    ▪ performing a profound analysis using a supplementary data in a case of multiple identification result of the said primary identification.

3. The method as recited in claim 1, wherein the direction of spatial orientation verification is performed via setting up and examining of hypotheses and the corresponding matching reliability estimation.

4. The method as recited in claim 2, wherein the form type definition is performed via setting up and examining of hypotheses and the corresponding matching reliability estimation.

5. The method as recited in claim 1, wherein the step of the form type identification is performed using minimum possible set of objects, defining the form type.

6. The method as recited in claims 1 or 2, wherein at least one object comprising the graphic image, is represented by non-text image.

7. The method as recited in claims 1 and 2, wherein at least one object comprising the graphic image, is represented by text image.

8. The method as recited in claim 7, wherein the text the said image is additionally recognized before the analysis.

9. The method as recited in claim 8, wherein the contents of the recognized text is used as an supplementary data in form type definition process.

10. The method as recited in claims 1 or 2, wherein the matching reliability estimation is performed on all steps of the pre-recognition analysis.

11. The method as recited in claims 1 and 2, wherein the at least one object comprising the graphic image, is represented by a group of form objects.

12. The method as recited in claim 6, wherein at least one element comprising the graphic image is the element of empty region type.

13. The method as recited in claim 6, wherein at least one graphic object comprising the graphic image is of dividing line type.

14. The method as recited in claim 2, wherein the profound analysis comprises at least
   - assigning on the form image at least one supplementary form element,
   - creating of profound analysis model using the said model of the said graphic image for preliminarily identification plus at least one said supplementary assigned form element,
   - performing a profound analysis of the form image using the said profound analysis model.

15. The method as recited in claim 2, wherein the profound analysis is performed using any other supplementary data.

16. The method as recited in claims 1 or 2, wherein the whole set of form objects is used to compose the graphic image for the direction of spatial orientation verification or for the form type definition.

17. The method as recited in claims 1 or 2, wherein the same graphic image is used for direction of spatial orientation verification and for the form type definition.

18. The method as recited in claims 1 or 2, wherein the said special model description is stored in the description of the form model.

19. The method as recited in claims 1 or 2, wherein at least one said form object, comprising the said graphic image is described in a form of alternative.